



Department of Public Utilities

Water Division
1910 East University Avenue
Fresno, California 93703-2988
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Providing Life's Essential Services

January 8, 2010

Carl L. Carlucci, PE
Senior Sanitary Engineer
State of California
Department of Public Health Services
Division of Drinking Water
265 W. Bullard Avenue—Suite #101
Fresno, California 93704

Dear Mr. Carlucci:

SUBJECT: SUMMER 2009 LEAD AND COPPER SAMPLING RESULTS

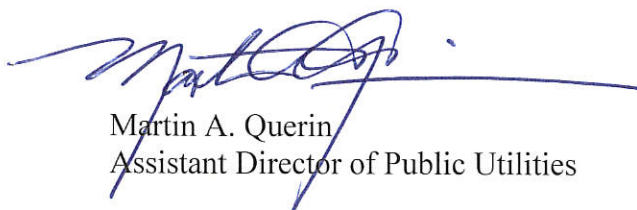
Attached are results of the lead and copper monitoring performed by the City of Fresno during the summer 2009

The City of Fresno's sample results did not exceed the action level for lead or copper with the 90th percentile samples.

The City of Fresno's water distribution system continues to be significantly below the EPA/CDPH action level for both lead and copper. Accordingly, after seven consecutive rounds of sampling significantly below the lead and copper action level it is interpreted that the next round of testing be resumed in the summer of 2013. Please provide, at your convenience, written confirmation of your concurrence.

Sincerely,

DEPARTMENT OF PUBLIC UTILITIES



Martin A. Querin
Assistant Director of Public Utilities

Enclosures



RESULTS OF SAMPLING

Results of Lead And Copper Tap Water Samples: *(Attach copy of all results to this form.)*

 Number of tap samples required: 50 90th Percentile Lead level: 0.0025 mg/L

 Number of tap samples collected & submitted: 50 90th Percentile Copper level: 0.17 mg/L

Results of Water Quality Parameter (WQP) Samples: *(Complete only if system is required to collect WQP samples.)*

 Number of WQP samples required to be collected: 15

 Number of WQP samples collected & submitted: 15

 Number of WQP entry point samples required to be collected: 17

 Number of WQP entry point samples collected and submitted 17

CERTIFICATION OF COLLECTION METHODS

I certify that:

- Each first draw tap sample for lead and copper is one liter in volume and has stood motionless in plumbing system of each sampling site for at least six hours.
- Each first draw sample collected from a single-family residence has been collected from the cold water kitchen tap or bathroom sink tap.
- Each first draw sample collected from a non-residential building has been collected at an interior tap from which water is typically drawn for consumption.
- Each first draw sample collected during an annual or triennial monitoring period has been collected in months of June, July, August, or September.
- Each resident who volunteered to collect tap water samples from his or her home has been properly instructed in the proper methods for collecting lead and copper samples. I do not challenge the accuracy of those sampling results.
- Enclosed is a copy of the material distributed to residents explaining the proper collection methods, and a list of the residents who performed sampling.

CHANGE OF SAMPLING SITES

Original site address: _____

New site address: _____

Distance between sites (approximately): _____

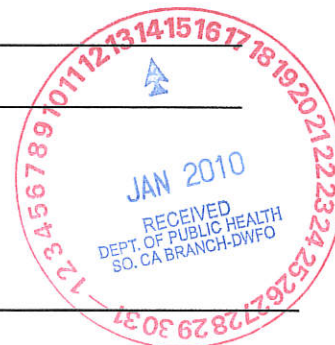
Targeting Criteria:	New Site:	<input type="checkbox"/> Tier 1 <input type="checkbox"/> Tier 2 <input type="checkbox"/> Tier 3	Old Site:	<input type="checkbox"/> Tier 1 <input type="checkbox"/> Tier 2 <input type="checkbox"/> Tier 3
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Reason for sample site change: _____

SIGNATURE:

DATE:
11-13-2010

 Print Name Martin Querin

 Title Assistant Director – Water Division


LEAD AND COPPER RULE SAMPLING REPORT

System's Name: _____ City of Fresno

Type: ☒ CWS ☐ NTNCWSAddress: _____
1910 E University Ave
Fresno, CA 93703Size: ☒ >100,000
☐ 50,001 to 100,000
☐ 10,001 to 50,000
☐ 3,301 to 10,000
☐ 501 to 3,300
☐ 101 to 500
☐ ≤ 100

Telephone Number: _____ (559) 621-5300

System ID Number: _____ 1010007

Contact Person: _____ Martin Querin

Sample
Date(s): 06/25/09 – 07/15/09

SAMPLE SITE IDENTIFICATION

Number of sample sites in each category:

- Single-family structures with copper pipes with lead solder installed after 1982; or lead pipes; or lead service lines. _____ 130 _____
 - Multi-family structures with copper pipes with lead solder installed after 1982; or lead pipes; or lead service lines. _____ 01 _____
 - Buildings containing copper pipes with lead solder installed after 1982; or lead pipes; or lead service lines. _____ 00 _____
 - Single family structures with copper pipes with lead solder installed before 1983. _____ 00 _____
- Total: _____ 131 _____

Number of lead service lines present in the distribution system: _____ 00 _____

Number of samples collected from sites served by lead service lines: _____ 00 _____

The following sources have been explored to determine the number of structures which have interior lead pipe or copper pipe with lead solder:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Plumbing and/or building codes.
<input checked="" type="checkbox"/> Plumbing and/or building permits.
<input checked="" type="checkbox"/> Contacts with the building department, municipal clerk's office, or state regulatory agencies.
<input checked="" type="checkbox"/> Water quality data. | <input checked="" type="checkbox"/> Interviews with building inspectors
<input checked="" type="checkbox"/> Survey of service area plumbers about when and where lead solder was used from 1982 to present.
<input checked="" type="checkbox"/> Survey of residents.
<input checked="" type="checkbox"/> Interviews with local contractors & developers. |
|---|---|

The following sources have been explored to determine the number of lead service lines in the distribution system:

- ☒ Distribution system maps and record drawings.
- ☒ Capitol improvement plans and/or master plans for distribution system development.
- ☒ Standard operating procedures and/or operation & maintenance manuals for the types of materials used for service connections.
- ☒ Utility records including meter installations, customer complaint investigations.
- ☒ Water quality data.
- ☒ Interviews with senior personnel.
- ☒ Conduct service line sampling where lead service lines are suspected to exist.
- ☒ Review of permit files
- ☒ Survey of residents.
- ☒ Interviews with local pipe supplies, contractors and/or developers.



**CITY OF FRESNO WATER DIVISION LEAD AND COPPER RULE
COMPLIANCE MONITORING RESULTS OF SUMMER 2009 MONITORING**

INTRODUCTION

The United States Environmental Protection Agency (USEPA) promulgated National Primary Drinking Water Regulations for lead and copper monitoring on June 7, 1991, (56FR26460) commonly referred to as the Lead and Copper Rule. This Rule requires that the City of Fresno monitor the water distribution system from the source to the point of delivery at the consumer's tap. Three specific monitoring protocols are included in the Lead and Copper Rule regulations:

- 1) first draw tap water monitoring for lead and copper
- 2) distribution system monitoring for various water quality parameters, and
- 3) source water monitoring for lead, copper, and various water quality parameters.

For purposes of the Lead and Copper Rule monitoring requirements, the City of Fresno is classified as a large public water supplier. This classification is based upon the City's 130,000 service connections which supply potable water to some 535,000 customers.

SAMPLE SITE SELECTIONS

The City of Fresno utilized the same Tier 1-C sample pool of 131 original residences which were selected for the initial two years of testing. Two rounds of sampling and analysis for lead and copper were required for 1993 whereas only one round was required for 1994. Eighteen of the residences were not sampled for 1994; two residents had



installed water filtration/softening devices, seven residents could not be contacted, and nine chose not to participate in this sampling. One resident had moved into an adjacent dwelling which met all the criteria for sample site and was thus added to the sample pool. Samples were thus collected for 114 sites in the sample 1994 pool. Per direction of the State of California, Department of Public Health Services, Division of Drinking Water [DPHS] (who presently govern the Lead and Copper Rule) the 1996, 1999, 2003, 2006 and 2009 sampling were reduced to fifty (50) representative sites from within the original sample pool of residences. Sites were randomly selected from each tract in an attempt to maintain equal sample percentages in accordance with previous sampling. Unfortunately not all sites selected for the 2009 sampling chose to participate. The final tract percentages are outlined below:

TRACT	POOL %	1996%	1999%	2003%	2006%	2009%
A	03%	08%	06%	06%	06%	06%
B	34%	30%	32%	30%	35%	34%
C	31%	30%	24%	30%	31%	30%
D	18%	18%	18%	16%	16%	20%
E	12%	14%	18%	16%	12%	10%
F	02%	00%	02%	02%	00%	00%
TOTAL	100%	100%	100%	100%	100%	100%

Exhibit 1 presents the completed Sample Site Justification/Collection method Certification Form from the Lead and Copper Rule guidance Manual. The residents



performing the tap water sampling are listed in Table 1. Water Quality sampling was performed at seventeen (17) source locations and fifteen (15) distribution system locations. These water quality sample locations are in the same areas as the tap water sample sites and represent the sources and distribution system for all the tap water sample sites in the 2009 Tier 1-C sample pool. The locations of the water quality sample sites are listed in Table 2.

SAMPLE COLLECTION

The City of Fresno collected their 2009 samples in compliance with the Lead and Copper Rule during the period June 25 – July 15, 2009 (94% collected by June 30th). Residents collecting tap water samples were given written instructions (Exhibit 2) along with their sample bottle.

TAP WATER SAMPLE RESULTS

Table 3 presents the results of the tap water analysis for lead and copper. The table lists the lead and copper concentrations in descending order. This was done in order to determine the 90th percentile levels as required by the Lead and Copper Rule.

Lead Results

The 90th percentile lead level was determined by multiplying the number of samples taken by 0.9 ($50 \times 0.9 = 45$). The 90th percentile lead level for the City of Fresno sample is 0.0025 mg/L which is below the EPA action level of 0.015 mg/L. The laboratory analysis detection limit for lead is the following: values less than 0.001 mg/L are reported



as ND; values between 0.0010 and 0.0049 are reported as 0.0025 mg/L; values greater than 0.005 mg/L are reported directly.

Copper Results

The 90th percentile copper level was determined in the same way as for lead. The 90th percentile copper level for the City of Fresno is 0.17 mg/L which is below the EPA action level of 1.3mg/L. The laboratory analysis detection limit for copper is the following: values less than 0.01 mg/L are reported as ND; values between 0.010 and 0.049 mg/L are reported as 0.025 mg/L; values greater than 0.05 mg/L are reported directly.

DISTRIBUTION SYSTEM AND SOURCE SAMPLE RESULTS

Water quality analysis was performed on fifteen (15) distribution system locations and seventeen (17) points of entry to the distribution system. These results are summarized in Table 2. Both the lead and copper concentrations of the source water and distribution system at these sample locations are significantly below the EPA/DPHS action level. The laboratory analysis detection limit for both lead and copper has been previously explained.

FUTURE LEAD AND COPPER MONITORING

Upon completion of this seventh year of sampling for the Lead and Copper Rule, the City of Fresno's water distribution system continues to be significantly below the EPA/DPHS action level. Accordingly, it is interpreted that the next round of testing be resumed in the summer of 2013 to monitor lead and copper for the EPA/DPHS.

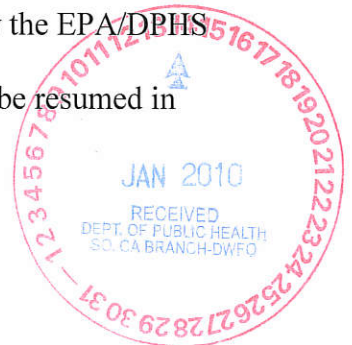


TABLE 1

TAP WATER SAMPLE ANALYSIS MASTER LISTING 2009



TABLE 2

WATER QUALITY PARAMETER SAMPLE LOCATIONS AND RESULTS



TABLE 2

WATER QUALITY PARAMETER SAMPLE LOCATIONS AND RESULTS

Type	System ID#	Location	Copper mg/l	Lead mg/l
Source	W-6B	(b) (6)	ND	0.0025
Source	W-79	(b) (9)	ND	ND
Source	W-83A		0.025	ND
Source	W-86		ND	ND
Source	W-89		Not in service	Not in service
Source	W-91		ND	ND
Source	W-97		ND	ND
Source	W-99		Not in service	Not in service
Source	W-131		ND	ND
Source	W-133		Not in service	Not in service
Source	W-136		ND	ND
Source	W-141		ND	ND
Source	W-143		ND	ND
Source	W-150		ND	ND
Source	W-163		ND	ND
Source	W-169		ND	ND
Source	W-171 1&2		ND	ND
Source	W-178		ND	ND
Source	W-181		ND	ND
Source	1010007-607		ND	ND



TABLE 2

WATER QUALITY PARAMETER SAMPLE LOCATIONS AND RESULTS

Type	System ID#	Location	Copper mg/l	Lead mg/l
Dist	E3A19	(b) (6)	ND	0.0025
Dist	E3B44		ND	0.0025
Dist	E4B45		0.074	0.012
Dist	E4C47		ND	0.0068
Dist	E3D93		0.025	0.017
Dist	E4A22		0.025	0.017
Dist	E7A14		0.025	0.0025
Dist	E7D91		ND	0.0038
Dist	E8D48		0.025	0.010
Dist	W2A11		0.42	0.016
Dist	W2A13		ND	0.0025
Dist	W2C43		0.025	0.0025
Dist	W2D54		ND	0.0025
Dist	W5D52		ND	0.010
Dist	W5D58		ND	0.0089



TABLE 3

TAP WATER SAMPLE ANALYSIS SUMMER 2009



TABLE 3

TAP WATER SAMPLE ANALYSIS (LEAD)—SUMMER 2009

#	Rank	mg/l	#	Rank	mg/l	#	Rank	mg/l
40	50	0.0025	57	34	ND	01	17	ND
88	49	0.0025	109	33	ND	03	16	ND
147	48	0.0025	71	32	ND	52	15	ND
10	47	0.0025	111	31	ND	120	14	ND
153	46	0.0025	58	30	ND	76	13	ND
156	45	0.0025	89	29	ND	134	12	ND
105	44	ND	124	28	ND	131	11	ND
95	43	ND	86	27	ND	140	10	ND
159	42	ND	100	26	ND	176	9	ND
115	41	ND	61	25	ND	149	8	ND
174	40	ND	116	24	ND	148	7	ND
136	39	ND	20	23	ND	139	6	ND
168	38	ND	43	22	ND	130	5	ND
80	37	ND	92	21	ND	143	4	ND
165	36	ND	26	20	ND	67	3	ND
79	35	ND	84	19	ND	21	2	ND
57	34	ND	02	18	ND	145	1	ND



TABLE 3

TAP WATER SAMPLE ANALYSIS (COPPER)—SUMMER 2009

#	Rank	mg/l	#	Rank	mg/l	#	Rank	mg/l
120	50	0.30	84	34	0.093	58	17	0.025
115	49	0.20	159	33	0.078	89	16	0.025
86	48	0.18	01	32	0.077	100	15	0.025
43	47	0.18	165	31	0.076	61	14	0.025
26	46	0.17	145	30	0.072	20	13	0.025
156	45	0.17	95	29	0.065	92	12	0.025
153	44	0.16	148	28	0.056	02	11	0.025
40	43	0.14	124	27	0.056	134	10	0.025
105	42	0.13	143	26	0.051	140	9	0.025
116	41	0.13	80	25	0.050	176	8	0.025
88	40	0.13	174	24	0.025	149	7	0.025
03	39	0.13	136	23	0.025	147	6	0.025
52	38	0.12	168	22	0.025	139	5	0.025
10	37	0.12	79	21	0.025	130	4	0.025
109	36	0.11	57	20	0.025	67	3	0.025
76	35	0.11	71	19	0.025	21	2	0.025
84	34	0.093	111	18	0.025	131	1	ND

